PARAMETER TITLE: Probability of Surface Organisms Surviving Ultraviolet Radiation (P (uv))

VALUE	
UPPER	1
ACCEPTABLE	See Below
LOWER	$< 10^{-4}$

APPLICATION	
MISSION	All
CATEGORY	IV
PLANET	All

PARAMETER DEFINITION: Probability that a randomly selected organism exposed to extraterrestrial ultraviolet radiation will survive the dose applicable to the mission specific conditions.

APPLICABLE SOURCE: All organisms exposed to extraterrestrial ultra-violet radiation.

CONSTRAINTS: Selection of a particular value is to be made in two steps as follows:

1. Assuming complete exposure of the microorganisms, i.e., no shielding, P(uv) is determined by the function described below. The value of P(uv) as a function of time is a straight line on a log-log scale. For Martian missions, the line is defined by the following two points:
   (a) P(uv) = 1 for a time of exposure of 1 minute, or less, and
   (b) P(uv) = 1×10^{-4} for a time of exposure of 1 hour.
   P(uv) for times of exposure other than the above can be obtained by interpolation or extrapolation of these two points. For distances other than for Mars (1.5A.U.), the time of exposure needed shall be scaled by an inverse square relationship.

2. The value obtained in accordance with the above must be increased to allow for the effects of shielding by structures or by small particles such as dust and debris.

REFERENCES: PQAP Review on January 18-19, 1972 at Cape Kennedy, Florida.

Planetary Protection Officer _____ Date _____